

Environment Energy Consultants

US EPA RECORDS CENTER REGION 5



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December 18, 1980

Mr. Peter Meehan
Sherwin Williams Chemical Company
Box 855
Coffeyville, KS. 67337

Dear Peter:

At your telephone request, Environment and Energy Consultants undertook a short environmental study of the property occupied by the Eagle Picher Zinc Oxide Plant in Hillsboro, Illinois. This study consisted of evaluating soils, residues, ores and water located on the property through sampling and laboratory evaluation. In addition, information was gathered from plant personnel, local citizenry and state environmental regulatory agency representatives.

The visit was made to the Eagle Picher property on October 27, 1980. The main contact at the plant was Mr. Morris Dodd, Manager, who gave us a summary and answered specific questions. He indicated that the plant was located on 133 acres of land. All furnaces that are in operation have baghouses for control of particulate emissions. There are two water ponds on the property, one quite small near the administration building and one which is the remains of an old cooling water pond. There is one small stream which runs through the property that dissects the northeast corner, but does not flow near any industrial operations. Near the larger pond is an abandoned landfill which was covered over approximately 10 years ago. It was noted that there have been no air pollution citations by the state regulatory agency for non-compliance air discharges. It was admitted, however, that because several of the furnaces are quite old there are occasional zinc oxide emissions to the atmosphere. Emissions will also occur at a time of any power failure which makes the baghouses inoperable. The local community is well aware that lead-free zinc oxide is made at the plant which is non-toxic. Prior to 1958, a leaded zinc oxide was produced by this plant and a public relations program was utilized to inform the community upon elimination of the lead. Because the operation is now

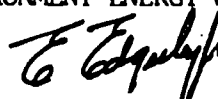
area of the property, one from the corn field located in the northwest sector of the property (Sample #12) and one from a plowed field in the northeast quadrant (Sample #13). A final sample was obtained for background information and was collected from a wooded area approximately two miles west of Hillsboro and in an area which could be identified as "undisturbed" (Sample #14). All samples were returned to our laboratories and analyzed on a dry weight basis for the metals of nickel, cadmium, lead, barium and selenium. The results of these analyses are presented in Table I.

Little difference can be seen in the metal content of the mud collected from the stream bottom at the northern point of entry to the property and the "undisturbed" background sample. The effects of runoff from the property can be seen in the concentrations found in the stream mud where the stream leaves the property. The pond water and the stream water were below the limits for drinking water which are: Arsenic 0.05 mg/l, Barium 1.0 mg/l, Cadmium 0.01 mg/l, Lead 0.05 mg/l and Selenium 0.01 mg/l. Other comparisons can be made, depending on their desired use.

If there are any questions regarding this report, please let me know and I'll be happy to respond.

Sincerely yours,

ENVIRONMENT ENERGY CONSULTANTS, INC.



E. Edgerley, Jr., Ph.D., P.E.
President

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Attached

TABLE I
METAL ANALYSES OF SAMPLES COLLECTED
AT EAGLE PICHER PLANT
HILLSBORO, ILLINOIS - October 30, 1980

| <u>Sample Identification</u> | <u>Nickel ppm</u> | <u>Cadmium ppm</u> | <u>Lead ppm</u> | <u>Barium ppm</u> | <u>Arsenic ppm</u> | <u>Selenium ppm</u> |
|---------------------------------------|-----------------------|------------------------|---------------------|-----------------------|------------------------|-------------------------|
| 1. Water - Large Pond | 0.037 | *.001 | *.005 | 0.26 | .008 | *.01 |
| 2. Ore Spoils-S. Bank Large Pond | 51 | 36 | 5072 | 415 | 35 | *1 |
| 3. Soil-N.Bank Large Pond | 10.1 | 1.5 | 77 | 146 | 19 | *1 |
| 4. Water-N. Stream leaving property | 0.037 | 0.007 | 0.013 | 0.13 | 0.008 | *.01 |
| 5. Mud-N.Stream Bed entering property | 9.8 | 1.5 | 69 | 130 | 19 | *1 |
| 6. Mud-N. Stream Bed leaving property | 68 | 21 | 291 | 179 | 62 | 3.0 |
| 7. Soil-Adjacent to Abandoned Dump | 10.3 | 0.9 | 89 | 122 | 41 | 4.0 |
| 8. Ore - Salvage Pile #12 | 30,500 | 33 | 32,970 | 69 | 203 | 12 |
| 9. Soil - Beneath Salvage Pile #12 | 8.0 | 1.0 | 16 | 126 | 24 | *1 |
| 10. Ore - Feed Stock | 560 | 180 | 12,680 | 81 | 35 | *1 |
| 11. Water - Surface of Ore storage | 0.030 | 0.018 | *.005 | 0.11 | 0.010 | 0.012 |
| 12. Soil - Corn Field | 8.4 | 1.9 | 61 | 130 | 24 | *1 |
| 13. Soil - Plowed Field | 10.0 | 1.4 | 89 | 138 | 22 | *1 |
| 14. Soil - Undisturbed, 2 mi West | 10.2 | 0.9 | 81 | 154 | 17 | *1 |

*Less than.

Analyses were conducted on oven dried samples.